

Claims

1. A hand-held device (1;101) having a housing (3;103), a track (17;117) in the housing, a chain  
5 (19;119) of capsules (21;121) in the track and a conveying mechanism (27,31b-f; 131,139) adapted to convey the chain along the track.
2. The device of claim 1, wherein the conveying  
10 mechanism has a manually-operable actuator element (29a;139) for actuating the conveying mechanism.
3. The device of claim 2, wherein the actuator  
15 element is rotatably mounted to the housing, rotation thereof actuating the conveying mechanism.
4. The device of any one of the preceding claims,  
wherein the conveying mechanism has a sprocket (31b-  
f;131) rotatably mounted in the housing and positioned  
20 to engage the capsule chain for advancement thereof in the track.
5. The device of claim 4 when appended to claim 2 or  
3, wherein the sprocket is operatively coupled to the  
25 actuator element.
6. The device of claim 5, wherein the conveying  
mechanism consists of the sprocket and the actuator  
element.

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7. The device of claim 4, 5 or 6, wherein the track has a bend (35b-f;135f) and the sprocket is located at the bend.

5 8. The device of claim 4, wherein the sprocket is one of a plurality of sprockets (35b-f) of the conveying mechanism, each rotatably mounted in the housing and positioned to engage the capsule chain for advancement thereof in the track.

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9. The device of claim 8, wherein the track has a plurality of bends (35b-f) and each sprocket is located at a different bend.

15 10. The device of claim 9, wherein there is a sprocket for each bend in the track.

11. The device of claim 7, 9 or 10, wherein the or each sprocket is located on the inside of the  
20 associated track bend.

12. The device of claim 2 or any claim appendant thereon, wherein the conveying mechanism has a drive mechanism (29a-f) adapted to impart drive to the  
25 capsule chain in response to operation of the actuator element.

13. The device of claim 12, wherein the drive mechanism has a drive wheel train (27).

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14. The device of claim 13 when appended to claim 8,  
wherein the drive wheel train has a plurality of  
wheels (29b-f) rotatably mounted in the housing, each  
wheel operatively coupled to a different sprocket  
5 whereby rotation of the wheels causes rotation of the  
associated sprockets.

15. The device of claim 14, wherein each sprocket is  
mounted on the associated wheel for rotation  
10 therewith.

16. The device of claim 15, wherein the sprocket and  
wheel of each associated pair are co-axially mounted  
in the housing.

15 17. The device of claim 16, wherein each sprocket has  
a spindle (33b-f), each spindle being mounted on the  
associated wheel at its axis of rotation.

20 18. The device of any one of claims 13 to 17, wherein  
at least one predetermined wheel (29b) of the drive  
wheel train is in engagement with the actuator element  
which is manually movable by a user of the device and  
wherein movement of the actuator element causes  
25 rotation of the at least one predetermined wheel to  
drive the drive wheel train.

19. The device of any one of claims 13 to 18, wherein  
the drive wheel train is a drive gear wheel train with  
30 the wheels being gear wheels.

20. The device of claim 19, wherein the gear wheels are spur gear wheels.

21. The device of any one of the preceding claims,  
5 wherein the capsules in the chain have elongate bodies (26) and are arranged upright in the track in side-by-side relation.

22. The device of claim 21, wherein the capsules are  
10 generally cylindrical.

23. The device of any one of the preceding claims in which the capsules contain a powder product.

15 24. The device of any one of the preceding claims, wherein the capsules contain a medicament.

25. The device of claims 23 and 24, wherein the capsules each contain a unit dose of a medicament  
20 powder.

26. The device of any one of the preceding claims in which the capsules are linked together.

25 27. The device of any one of the preceding claims in which the track is endless.

28. The device of claim 27 in which the chain is  
30 endless.

29. The device of any one of the preceding claims in which the track has at least one fold section (23;123) to provide the track with a space-saving configuration.

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30. The device of claim 29 when appended directly or indirectly on claim 7, wherein the bend is at the inside of the fold section.

10 31. The device of any one of the preceding claims adapted for use as a component part of an inhalation device for delivering medicament to a patient.

15 32. An inhalation device for delivering medicament to a patient incorporating the hand-held device of any one of the preceding claims.

20 33. A hand-held device substantially as hereinbefore described with reference to, and as shown in, FIGURES 1 to 6 or FIGURES 7 to 14 of the accompanying drawings.